

ABSTRACT OF THE DISCLOSURE

An axial-gap motor comprising a base, a shaft, a stator frame, a plurality of electromagnet units, bearings, a rotor frame, and a plurality of permanent magnet units, an rotary encoder, and a drive unit. The rotor frame is spaced from the stator frame by a predetermined distance. The permanent magnet units oppose the electromagnet units across a predetermined axial gap. From the output of the rotary encoder, the drive unit supplies an excitation current to the electromagnet units, causing the magnetic poles of the units to repulse those of the permanent magnet units. The magnetic-field centerline that passes the center of each electromagnet unit intersects, at a predetermined angle, with the magnetic-field centerline that passes the center of one permanent magnet unit.